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Predicting the Effectiveness of Work-Focused CBT for Common Mental Disorders: The Influence of Baseline Self-Efficacy, Depression and Anxiety

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Abstract

Purpose This study examined who benefits most from a cognitive behavioural therapy (CBT)-based intervention that aims to enhance return to work (RTW) among employees who are absent due to common mental disorders (CMDs) (e.g., depression, anxiety, or adjustment disorder). We researched the influence of baseline work-related self-efficacy and mental health (depressive complaints and anxiety) on treatment outcomes of two psychotherapeutic interventions. *Methods* Using a quasi-experimental design, 12-month follow-up data of 168 employees were collected. Participants either received work-focused cognitive behavioural therapy (W-CBT) that integrated work aspects early into the treatment (n = 89) or regular cognitive behavioural therapy (R-CBT) without a focus on work (n = 79). *Results* Compared with R-CBT, W-CBT resulted in a faster partial RTW, irrespective of baseline self-efficacy. Among individuals with high self-efficacy, W-CBT also resulted in faster full RTW. The effectiveness of W-CBT on RTW did not depend on baseline depressive complaints or anxiety. The decline of mental health complaints did not differ between the two interventions, nor depended on baseline self-efficacy or mental health. *Conclusions* Considering the benefits of W-CBT for partial RTW, we recommend this intervention as a preferred method for employees with CMDs, irrespective of baseline self-efficacy, depression and anxiety. For individuals with high baseline self-efficacy, this intervention also results in higher full RTW. For those with low self-efficacy, extra exercises or components may be needed to promote full RTW.

Keywords Self-efficacy · Return to work · Common mental disorders · Cognitive behavioural therapy · Sickness absence

Introduction

Common mental disorders (CMDs) in the working population, such as depression, anxiety, and adjustment disorder, are gaining growing attention among researchers [1, 2]. The prevalence of these disorders in the working population is high, affecting individuals all over the world [3, 4]. CMDs may result in declined job performance and decreased work participation, such as long-term sick leave [3, 5]. As such, CMD not only pose a threat to the well-being of individuals who are affected, but also entail considerable societal and financial costs [2, 3].

Considering the prevalence and impact of CMD, it is essential that research illuminates what methods are successful to enhance return to work (RTW) for employees with CMD. Although there is limited evidence available concerning effective RTW interventions for employees with CMD [6, 7], research suggests that interventions that combine

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cognitive-behavioural techniques with work-focused techniques constitute effective treatments [8]. In a recent study, we demonstrated that work-focused cognitive behavioural therapy (W-CBT), compared with regular cognitive behavioural therapy (R-CBT), indeed promoted full and partial RTW among employees who were sick-listed due to CMD [9].

To implement W-CBT as a preferred treatment method for sick-listed workers with CMD, it is important that practitioners believe that this method is adequate for their specific clients (see also [10]). Practitioners may be concerned that particular clients, for example those with high levels of mental health complaints, may benefit less from work-focused techniques or may even be harmed by these techniques. These concerns were expressed by the therapists that participated in our intervention and have also been reported by practitioners in other studies [11, 12]. Therefore, it is essential to investigate the effectiveness of W-CBT in particular types of clients with CMD.

Building upon our earlier study [9], we examined the influence of baseline RTW self-efficacy and mental health symptoms on the outcomes of W-CBT, compared with R-CBT, among employees with CMD. RTW self-efficacy is an overarching construct that relates to the multifactorial nature of RTW, taking into account both mental health symptoms and the work context, which is not only useful for understanding and facilitating the RTW process [13], but may also predict who will benefit most from interventions that aim to enhance RTW [14]. In a similar vein, individuals' level of mental health symptoms might be a relevant predictor for treatment success [15]. The insights from this study may help identify clients who are most likely to benefit from W-CBT and R-CBT, match clients with the most appropriate intervention, and adapt interventions to clients' individual needs.

CBT-Based Interventions for Employees with CMD

Although psychotherapeutic interventions are often provided to employees with CMD, the effect of these interventions on RTW are not well understood [6, 16]. To give more insight into the benefits of combining cognitive-behavioural and work-focused techniques [8, 17], we conducted an earlier study in which we compared the effectiveness of two CBT-based psychotherapeutic interventions: treatment as usual consisting of R-CBT and W-CBT [9]. W-CBT consisted of R-CBT treatment plus a module focusing on work and RTW that was integrated in each session. In a quasi-experimental design, 12-month follow-up data were collected of 168 employees who were on sick leave because of CMD. We found that the W-CBT group returned significantly faster to work, both fully and partially. In both intervention groups, a similar significant decrease in mental health problems was observed. Hence, by focusing more and earlier in the intervention on work-related aspects RTW could be substantially enhanced, without negative side effects on psychological complaints.

It should be noted that, as with other psychotherapeutic interventions, not all individuals may benefit to the same degree from W-CBT. Since the beginning of modern psychotherapy, researchers and therapists have acknowledged that interventions should be tailored to clients' individual characteristics (see [18]). To do so, more research is needed with respect to the question 'what kind of intervention works for whom' [19, 20]. This article examines to what extent return-to-work self-efficacy (RTW-SE) and mental health symptoms influence the outcomes of W-CBT, in terms of RTW and mental health complaints, compared with R-CBT.

Self-Efficacy

Self-efficacy refers to the belief that individuals have in their capacity to successfully perform a specific behaviour [21]. Self-efficacy beliefs are considered to have a prominent influence on the initiation and maintenance of behavioural changes [22]. Individuals with high levels of self-efficacy set more challenging goals for themselves, they invest more effort to meet their goals, they persist longer, and are better able to cope with setbacks. In contrast, individuals may avoid activities for which they experience low self-efficacy. Low self-efficacy cognitions are relatively often present among those with mental health problems, as mental disorders may erode a positive self-concept by the very nature of the disorder (see [23]).

This study focuses on self-efficacy with respect to RTW, thereby covering the domain of efficacy cognitions that are relevant for people with mental health problems during their RTW process, including difficulty in concentrating, coping with work pressure, dealing with emotionally demanding situations, and energy regulation. Based on self-efficacy theory [21, 22] it can be expected that employees with low RTW-SE are more inclined to postpone their RTW and are less successful in their attempts to RTW. RTW-SE indeed appeared to be a robust predictor of RTW among sick listed employees with CMD [13, 24].

Influence of Self-Efficacy on Treatment Success

Studies that have been conducted on the relationship between self-efficacy and the response to psychotherapeutic interventions suggest that treatment outcomes are generally better among those with higher baseline self-efficacy. For instance, in studies exploring the effectiveness of CBT-based treatment of depression [14] and panic disorder [25], treatment outcomes were more favourable for individuals with higher baseline self-efficacy. Similar findings have been

found with respect to treatments for fibromyalgia patients [26]. In contrast, Eden and Aviram [27] found that a reemployment program increased the chance of finding work only for individuals with low levels of general self-efficacy.

In general, the studies that point to higher treatment benefits for those with high self-efficacy are in line with Whisman [28], who proposes that cognitive therapies capitalize on pre-existing strengths and skills and that individuals with relatively high levels of capabilities and positive learning histories would therefore benefit more from cognitive therapy. We therefore expect that especially individuals with high levels of RTW-SE may benefit from W-CBT. As RTW-SE predicts actual RTW among sick listed employees with CMD [13, 24], we assume that individuals with high self-efficacy are better able to perform exercises that address (return to) work and to take the necessary steps to (partially) RTW. Having confidence in their ability to deal with challenges and setbacks in the RTW process, these individuals may experience less tension and negative mood during work-focused exercises, they may be more likely to recognize success experiences as such, and may be better able to recover from, and deal with, relapses. All this would eventually help to RTW and to recover from mental health complaints. Based on this reasoning, we formulated the following hypothesis:

Hypothesis 1 Individuals with high baseline levels of RTW-SE benefit more from W-CBT, compared with R-CBT, in terms of RTW and mental health outcomes.

Our outcome variables regarding RTW include both partial and full RTW. Our mental health outcomes include symptoms of stress, depression, and anxiety, symptoms that are relevant for CMDs in the working population.

Influence of Mental Health Symptoms on Treatment Success

In general, more severe mental health complaints are predictive of less favourable RTW outcomes (see for a review [15]). Moreover, several studies have identified symptom severity as a significant predictor for less favourable mental health outcomes of CBT. For instance, CBT for anxiety disorders has found to be less effective with respect to symptom reduction among those with more severe anxiety symptoms [29]. In studies on cognitive therapy for depression, severity of depressive symptoms has generally been associated with poorer treatment outcomes (see [28]). These outcomes contradict the (common sense) assumption that treatment would be effective to the degree that it addresses individuals' problems and deficits, and would therefore be more beneficial to those with greater symptom severity [28, 30]. In cognitive and behavioural therapies, there is often an implicit assumption, shared by therapists, that clients benefit most when they are deficient in the areas that the therapy addresses [30]. In contrast with this assumption, however, treatment seems to be more beneficial to those with lower symptom severity [28, 29].

It can be argued that anxiety complaints (involving fear and worrying) and depressive complaints (involving sadness and hopeless) may interfere with individuals' ability to benefit from CBT techniques (see [28, 29]). We assume that this would be particularly true for W-CBT techniques, whereby individuals are stimulated to focus on work and (partial) RTW. Individuals with high baseline anxiety and depressive complaints generally experience a less favourable RTW process [15]. Individuals may also fear that early RTW would be hampered by, or may even aggravate, their mental health symptoms [12, 31]. Hence, W-CBT techniques may be a particular challenge for those with high levels of anxiety and depression. This reasoning leads to the following hypothesis:

Hypothesis 2 Individuals with low baseline levels of depressive symptoms and anxiety benefit more from W-CBT, compared with R-CBT, in terms of RTW and mental health outcomes.

Socio-legal Context

In order to understand the outcomes this study, it is important to take the socio-legal context of this study into account. In the Netherlands, partial and gradual RTW is facilitated by law (Gatekeeper Improvement Act of 2002). Furthermore, employees can also report sick for a limited number of hours (i.e., partial sickness absence). The employer has to pay at least 70% of wages during the first 2 years of sickness absence, for work-related or non-work-related causes. The employer is also obliged to support work adjustments and to hire an independent Occupational Physician who advises both the employer and employee. Employers or employees can both be sanctioned if they have made insufficient RTW efforts. When employees are not able to RTW within 2 years, they can apply for a permanent disability benefit paid by national insurance authorities.

Method

Participants and Procedure

Employees on sick leave (who were 100% absent at the start of sick leave and had not fully returned to work at the start of treatment) due to CMD were recruited to participate in the study by psychotherapists from an outpatient mental health centre in the Netherlands. CMD

encompassed the following diagnoses according to DSM-IV criteria [32]: adjustment disorder, undifferentiated somatoform disorder, anxiety disorder (excluding post-traumatic stress disorder), and mood disorder (excluding major depressive disorder). A minority of the participants (2%) was categorized as having CMD not further specified or hypochondria. From an ethical perspective, we excluded those with more severe mental disorders (i.e., major depressive disorder, post-traumatic stress disorder).

Using a quasi-experimental design, four departments of a mental health centre recruited clients for participation in this study. To diminish the risk of contamination between the conditions, these departments were (non-randomly) assigned to perform either R-CBT or W-CBT. Allocation of clients to the departments occurred centrally and did not involve content-driven preferences of the therapist or client. Allocation was based on clients' proximity to their home address. Exceptions were sporadically made when a department would have a long waiting list. There were no a priori reasons to assume that departments would differ with respect to clients' socio-demographic background, the severity of their complaints, or any other variable. Randomization checks were performed for 32 variables including socio-demographic variables, therapeutic characteristics, and mental health and work characteristics at baseline (see also [9]). The two conditions did not differ on these variables, except for two variables (marital status and time on the waiting list, see also statistical analyses below).

Upon acceptance, approval of the proposed treatment plan, and signing of an informed consent, the baseline questionnaire was sent to the client per mail. Follow-up questionnaires were sent at fixed times: 1, 3, 6, 9, and 12 months after baseline. Treatment sessions generally started one week after the first questionnaire was filled in.

Of 250 eligible clients, 208 individuals agreed to participate in the study. A total of 168 clients filled in the first questionnaire (response rate 67%). Table 1 presents the baseline characteristics of the sample, including the duration of sickness absence at baseline, and the number of therapeutic sessions. More detailed information about the participants and procedure can be found in elsewhere [9].

Interventions

R-CBT was performed according to a protocol that is widely used and acknowledged as state-of-the-art treatment for work-related mental health problems in the Netherlands [33]. Based on the diagnosis (for example, burnout, adjustment disorder, depression), the therapist could choose from different versions of the protocol. Each version of the protocol started with a basic module that concentrated on identification of the problem and symptom reduction. After the disorder-specific basic module (covering about 6 sessions), one or more modules were chosen in dialogue with the client. The protocol consisted of 12 sessions (in practice it was 11.4 sessions, see Table 1).

W-CBT consisted of R-CBT plus an integrated focus on work and RTW, using a newly developed protocol [34]. In this treatment, it was essential that psychotherapists addressed work issues in an early stage and used work as a mechanism or a context to attain treatment goals. This means that therapists integrated work aspects into regular treatment content (e.g., cognitive restructuring regarding unrealistic cognitions about work). In addition, the W-CBT treatment consisted of specific work-related

Table 1 Baseline characteristics of participants and number of therapeutic sessions

	R-CBT ($n=79$)	W-CBT ($n=89$)	Total ($n=168$)
Demographics			
Mean age (*SD*)	41.3 (10.4)	40.2 (9.6)	40.7 (9.9)
Gender (female), %	67	54	60
Married or cohabiting, %	67	86	77
Lower vocational/general secondary education, %	37	37	37
Intermediate vocational education, %	27	35	31
Higher education (college, university), %	36	27	31
Disorder			
Adjustment disorder/undifferentiated somatoform disorder, %	62	72	67
Anxiety, %	15	12	13
Depression, %	18	16	17
Other common mental disorder, %	5	–	2
Mean weeks of sick leave (*SD*)	9.4 (8.2)	8.8 (5.0)	9.1 (6.7)
Mean number of therapeutic sessions (*SD*)	11.4 (3.6)	11.1 (3.7)	11.2 (3.6)

R-CBT regular cognitive behavioural therapy, *W-CBT* work-focused cognitive behavioural therapy

(homework) exercises/interventions (such as drawing a RTW plan) that were additional to R-CBT interventions. The W-CBT protocol consisted of 12 sessions (in practice it was 11.1 sessions, see Table 1). A more detailed description of the interventions can be found elsewhere [9].

Measures

Return to Work Self-Efficacy (RTW-SE)

RTW-SE was measured with an 11-item scale developed by Lagerveld et al. [13]. Participants were asked to respond to statements about their jobs, imagining that they would start working their full contract hours the following day, in their present emotional state/state of mind. An example item is: "If I resumed my work fully tomorrow I expect that: I will be able to perform my tasks at work". Response categories varied from 1 ("totally disagree") to 6 ("totally agree") on a six-point Likert scale. Cronbach's alpha was 0.93 for the baseline measurement.

Depression and Anxiety

Depression and anxiety were measured using two subscales of the Symptom Checklist-90 (SCL-90; [35, 36]). The subscales depression and (generalized) anxiety consist of 16 items and 10 items, respectively. Participants were asked to what extent they were bothered by symptoms of mental ill-health during the previous week (for example: "Thoughts of ending your life" or "Trembling"). Items were scored on a five-point Likert scale (from 1 "not at all" to 5 "extremely"). The SCL is a validated measure for evaluation of treatment effects and shows good reliability and validity [35]. Both scales were of excellent internal consistency, with alphas above 0.90. SCL scores were gathered by the therapists at baseline and after approximately 3 and 6 months.

Stress

Stress was measured using the 7-item subscale 'Stress' from the shortened Depression, Anxiety, and Stress Scale (DASS-21; [37, 38]). This subscale measures the extent to which stress has been experienced over the previous week. A sample item is "I had difficulty relaxing". Items were scored on a four-point Likert scale (from 0 "not applicable" to 3 "very applicable"). The DASS is a measure with a good reliability and validity [38]. Cronbach's alpha in our study was 0.92. Stress was measured at every measurement wave, except the second (1 month after baseline).

Return to Work

RTW was operationalized in two time-dependent variables. Firstly, partial RTW was defined as the length of time between the first treatment session and the first formal increase in working hours (i.e., an increase in work hours that has been registered/certified by the occupational physician and/or the employees' supervisor). Secondly, the duration of full RTW was defined as the length of time from the start of the treatment until full RTW within 1 year, as reported by the participants. Full RTW was defined as working the number of hours specified in the labour contract, except if this was still on a 'therapeutic' basis (with adjusted tasks and/or reduced responsibilities).

Statistical Analyses

RTW was analysed using hierarchical survival analysis (Cox regression). To include participants who had not fully resumed work within 1 year ($n = 12$), an artificial duration was set at 365 days. Continuous variables were standardized to compute interactions. Post-hoc analyses were conducted using the procedure described by Aiken and West [39] and by comparing medians for those below and above median scores.

Multilevel analyses, using HLM-6 [40], were performed to analyse mental health outcomes. Multilevel analysis has advantages with respect to dealing with missing data [41]. As our earlier study [9] did not reveal evidence for a three-level structure concerning individuals' therapist, two levels were discriminated: (1) repeated measurements (varying from three to five measurements, resulting in 504–840 occasions per outcome measure); and (2) individuals.

In the first step of our analyses, we entered variables that were reported as relevant to baseline differences between our conditions (marital status and time on waiting list) and drop-out (gender and time on waiting list) when significant (see [9]).

Results

Return to Work Outcomes

Table 2 presents the outcomes of the Cox regression analyses for the duration until partial and full RTW. As described and elaborated elsewhere [9], the W-CBT condition resulted in faster partial and full RTW. Below we describe the conclusions of Table 2 regarding the influence of baseline characteristics on treatment outcomes.

Hypothesis 1 predicted that individuals with high baseline levels of RTW self-efficacy (RTW-SE) would benefit more from W-CBT, compared with R-CBT. We found *no*

Table 2 Cox regression of duration until partial and full return to work on intervention, baseline RTW self-efficacy, depressive symptoms, and anxiety

	Duration until partial RTW				Duration until full RTW			
	B	*SE*	HR	$\Delta\chi^2$	*B*	*SE*	HR	$\Delta\chi^2$
Step 1. Main effects				7.84				21.45**
Intervention (1 = W-CBT, 0 = R-CBT)	0.40	0.18	1.50*		0.55	0.18	1.74**	
RTW-SE	0.09	0.09	1.09		0.29	0.08	1.34**	
Depression	−0.02	0.11	0.98		0.11	0.10	1.11	
Anxiety	−0.09	0.11	0.92		−0.18	0.10	0.84	
Step 2. Interaction effects				2.65				10.06*
Intervention × RTW-SE	0.13	0.18	1.14		0.44	0.17	1.56**	
Intervention × depression	−0.22	0.23	0.80		−0.08	0.21	0.93	
Intervention × anxiety	0.03	0.22	1.03		−0.16	0.21	0.86	

Hazard ratios (Exp(B)) exceeding 1 indicate a positive effect on the occurrence of RTW, while Hazard ratios below 1 indicate a negative effect on the occurrence of RTW

*$p < .05$; **$p < .01$

significant interaction between intervention and baseline RTW-SE on partial RTW. The W-CBT group had a higher chance of partial RTW (HR = 1.50, $p < .05$), irrespective of individuals' baseline level of self-efficacy. Hence, Hypothesis 1 was *not* supported for partial RTW.

In line with our first hypothesis, we found a significant interaction effect between intervention and baseline RTW-SE on full RTW (HR = 1.56, $p < .01$). Post-hoc analyses revealed that only among individuals high in RTW-SE, full RTW occurred earlier in W-CBT (HR = 2.62, $p < .01$): they returned 56 calendar days earlier compared to their high self-efficacious counterparts in R-CBT (see median scores Table 3). Moreover, only in the W-CBT group full RTW occurred earlier among those high in RTW self-efficacy (HR = 1.80, $p < .01$): they returned 79 calendar days earlier compared to their low self-efficacious counterparts in W-CBT. In the R-CBT group, the difference between those high and low in self-efficacy was not significant (HR = 1.10, *ns*) Hence, overall, Hypothesis 1 was supported for full RTW.

Hypothesis 2 predicted that individuals with low levels of depressive symptoms and anxiety would benefit more from W-CBT, compared with R-CBT. No significant interaction effects on partial and full return were found between intervention and baseline depressive symptoms or anxiety. Hence, Hypothesis 2 was neither supported for partial nor for full RTW.

Analyses that were conducted separately for baseline self-efficacy, depressive symptoms and anxiety yielded similar conclusions concerning Hypothesis 1 and 2.

Mental Health Outcomes

Table 4 displays the results of multilevel analyses of mental health outcomes. As described elsewhere [9], mental health complaints declined over time, irrespective of the intervention individuals received. We found significant random slope variance for a linear time effect in relation to stress. Hence, only for stress, interaction effects between baseline characteristics and time could be computed.

Hypothesis 1 predicted that individuals with high baseline levels of RTW self-efficacy would benefit more from W-CBT, compared with R-CBT. No significant three-way interactions between intervention, time and baseline self-efficacy were present. Hence, unlike predicted, effects of W-CBT on mental health outcomes were not more pronounced among those with high baseline RTW-SE.

Hypothesis 2 predicted that individuals with low baseline levels of depressive symptoms and anxiety would benefit more from W-CBT, compared with R-CBT. No significant three-way interactions between intervention, time and baseline depression or anxiety were present. Consequently, unlike predicted the effects of W-CBT on mental health outcomes were not more pronounced among individuals with low baseline levels of depression and anxiety.

Table 3 Duration until full return to work (median in days) for high and low RTW-SE (based on median split), for regular and work-focused CBT

	Low self-efficacy		High self-efficacy		Total	
	Median	n	Median	n	Median	n
Regular CBT	177	38	145	33	165	72
Work-focused CBT	168	33	89	43	100	77

Table 4 Multilevel analyses for the course of mental health complaints, with intervention, baseline RTW self-efficacy, depressive symptoms, and anxiety as predictors

	Stress B	Depression B	Anxiety B
Step 1. Main effects			
Time	−3.85*	−13.96*	−5.62*
Time^2	0.64*	2.74*	0.70
Intervention	−0.66	−0.46	0.16
RTW-SE	−0.42	−2.50*	−0.18
Depression	1.50*	–	3.07*
Anxiety	0.19	3.84*	–
Step 2. Two-way interactions			
Intervention × RTW-SE	−1.08	−0.53	−0.81
Intervention × depression	−0.88	–	−0.40
Intervention × anxiety	0.72	−0.99	–
Time × intervention	0.14		
Time × RTW-SE	0.22		
Time × depression	−0.31		
Time × anxiety	0.28		
Step3. Three-way interactions			
Time × intervention × RTW-SE	−0.49		
Time × intervention × depression	−0.22		
Time × intervention × anxiety	−0.29		
Variances—model with only 1st level predictors (Time and Time^2)			
Level 1	11.17	62.07	27.89
Level 2 intercept	11.15*	47.35*	23.95*
Level 2 slope Time	0.93*	–	–
Level 2 slope Time^2	–	–	–

*$p < .05$

In sum, Hypothesis 1 and 2 were not supported for mental health outcomes. Analyses that were conducted separately for baseline self-efficacy, depressive symptoms and anxiety yielded similar conclusions with respect to our hypotheses.

Discussion

This study addressed the role of baseline self-efficacy and mental health symptoms on treatment outcomes of two CBT-based interventions for employees who are absent due to CMDs. This study builds upon an earlier study in which we compared the effectiveness of two psychotherapeutic interventions: W-CBT that integrated work aspects early into the treatment and R-CBT [9]. In a quasi-experimental design, 12-month follow-up data of 168 employees were collected with respect to RTW and the course of mental health complaints. We expected that individuals with high baseline work-related self-efficacy (RTW-SE) and low baseline depressive symptoms and anxiety would benefit more from W-CBT, compared with R-CBT.

Influence of Baseline Self-Efficacy on Treatment Outcomes

The benefits of W-CBT, compared with R-CBT, for partial RTW were not dependent upon individuals' baseline level of self-efficacy. However, the benefits for full RTW were more pronounced among those with high baseline self-efficacy. For individuals with high self-efficacy, full return occurred 56 days earlier in the W-CBT group compared with the R-CBT group, and 79 days earlier compared to their low self-efficacious counterparts in W-CBT. W-CBT and R-CBT were equally effective in promoting full RTW among those low in self-efficacy. Moreover, the two interventions resulted in a comparable decline of mental health complaints, irrespective of baseline self-efficacy. Hence, only the benefits of W-CBT for full RTW were associated with baseline self-efficacy.

Whisman [28] proposed that cognitive therapies capitalize on pre-existing strengths and skills and that individuals with relatively high levels of capabilities and positive learning histories would therefore benefit more from cognitive therapy. Our results suggest that this may be particularly true for W-CBT, which offers additional challenges to clients by systematically addressing work and RTW. Individuals who possess high levels of RTW-SE may be better able to deal with these challenges, and may in this way combat dysfunctional cognitions and secure success experiences.

It is interesting to relate our results to a recent large-scale, Norwegian study that examined W-CBT in combination with employment services, among individuals struggling with work participation due to CMD [42]. Particularly among individuals depending on long-term benefits, the combined intervention resulted in higher work participation. Although the scope and sample of this study differed from our study, the results point at the relevance of integrating mental health and employment services (see also [43]). A related study using the same sample [44] showed that uncertain and unfavourable RTW expectations predicted future dependence on benefits, particularly for those with a favourable work status at baseline (i.e., those not depending on long-term benefits). In line with the characteristics of our W-CBT intervention, the authors recommend addressing RTW expectations in an early phase during RTW interventions.

Influence of Baseline Depression and Anxiety on Treatment Outcomes

The effectiveness of W-CBT, compared with R-CBT, did not depend on baseline levels of depressive complaints or anxiety. Unlike expected, the positive effects of W-CBT

on partial and full RTW were not more prominent among those with lower baseline levels of depression or anxiety. Furthermore, irrespective of baseline depression or anxiety, both interventions resulted in a decline of mental health complaints (see also [9]).

It is important to note that more serious disorders, such as major depressive disorder, were not part of our inclusion criteria. It seems then that within the restricted range of CMDs included in our study, the severity of the disorder does not influence treatment success. Perhaps if more serious disorders had been included, we would have found comparable results as previous studies which identified symptom severity as a significant predictor for less favourable treatment outcomes (e.g., [28, 29]). However, a study by Hees et al. [45] demonstrated favourable effects of work-focused therapy on the course of mental health complaints among employees with a major depression.

Theoretical and Practical Implications

Our study contributed to the scarce knowledge on RTW interventions for employees who are absent due to CMDs, in relation to baseline self-efficacy and mental health symptoms. This study revealed the influence of baseline self-efficacy on the benefits of W-CBT intervention for full RTW. It also showed that baseline depressive symptoms and anxiety had no effect on treatment outcomes. With these results, we hope to have increased our insight into the factors that determine 'what kind of intervention works for whom' [19, 20]. Practitioners could use this kind of information to motivate their clients in the RTW process. For those with high initial levels of RTW-SE, practitioners could for example emphasize the benefits in terms of successful RTW that are likely to occur (e.g., as part of the rationale for providing W-CBT). Below we describe how the insights from our study may encourage psychotherapists to use W-CBT as a preferred intervention, and adapt interventions to clients' individual needs.

Although employees with low baseline self-efficacy did not benefit from W-CBT in terms of full RTW, this intervention did promote partial RTW and did not hinder the recovery of their mental health problems. Considering the potential benefits of W-CBT for partial RTW and the relatively low costs of adding work-related components, we would therefore recommend W-CBT for employees with CMD, irrespective of baseline levels of self-efficacy. A focus on (return to) work might also offer psychotherapists a convenient context in which CBT techniques can be applied to achieve regular psychotherapy treatment goals and stimulate RTW. Elevated levels anxiety or depressive complaints at baseline do not seem to hinder the effectiveness of W-CBT for individuals with CMD.

To tailor W-CBT to low self-efficacious individuals it may be fruitful, however, to add extra exercises or components that may help these individuals prepare for their RTW. This is not to say that RTW issues should not be addressed in an early stage for those with low self-efficacy, but that perhaps extra efforts are needed. Bandura [46] has proposed several strategies that can be used to enhance self-efficacy, whereby personal mastery is considered the most potent source of self-efficacy. For those with low self-efficacy, however, it may be better to start with 'safer' sources of self-efficacy (e.g., [47]), such as vicarious learning (e.g., learning what similar clients did to RTW), verbal persuasion (e.g., receiving verbal information about the relevance of coping skills in the work setting), and arousal management (e.g., learning techniques to regulate one's emotional arousal). These sources of self-efficacy may be less challenging for individuals compared with active engagement in activities at the workplace (i.e., personal mastery). Furthermore, considering the multifactorial nature of the RTW process for employees with CMD [1], we would recommend therapists to be particularly alert to obstacles in the workplace, such as conflicts with supervisors [24]. Awareness of obstacles may encourage psychotherapists and their clients to come up with strategies to overcome these obstacles (for instance by proposing mediation or transfer to another supervisor, in case of conflicts). Perhaps with the necessary work adjustments, individuals with low-self efficacy are better able to use W-CBT to their advantage.

In general, W-CBT appeared to be superior in terms of partial and full RTW, without negative consequences for the course of mental health complaints [9]. We would like to connect these findings to some recent trials concerning RTW interventions for individuals with CMD. Some studies found no beneficial effects on work participation and mental health, such as an Individual Placement and Support intervention for individuals with mood and anxiety complaints [48], an RTW intervention for primary care patients on sick leave due to CMD [49], and an RTW program for employees without an employment contract, sick-listed due to CMD [50]. Other studies did find benefits in terms of employment and mental health, such as an individual enabling and support intervention for affective disorders [51], and a combined intervention for individuals struggling with work participation due to CMD [42]. These somewhat conflicting findings point to the relevance of further disentangling the specific mechanisms and characteristics of successful RTW interventions for individuals affected by CMD, in relation to client characteristics.

Limitations and Suggestions for Future Research

An important limitation of our study concerns the use of a quasi-experimental design. As we did not randomly assign

departments, and allocation of participants was based on proximity to a department, potential resulting biases should be kept in mind when interpreting our results. However, several aspects of our study may substantiate the robustness and validity of our findings. Allocation of clients did not involve content-driven choices. Moreover, randomization checks revealed that the two conditions did virtually not differ with respect to socio-demographic variables, therapeutic characteristics, and work characteristics. The only baseline differences that appeared concerned clients' marital status and the time on waiting list (for which we corrected in our analyses when significant). Although we cannot fully rule out that clients in the conditions may have differed on other variables, such as for instance neighbourhood characteristics, we believe that it is not very likely that these other variables would explain the differential effects of our interventions. Nevertheless, it would be important to replicate our results using a fully randomized design.

A second point of concern is our limited sample size (N = 168). We did find significant interactions in our sample, while moderator effects are generally difficult to identify statistically [52]. Nevertheless, some non-significant effects were in the expected direction and might have been significant with a larger sample size. For future studies, we would recommend to employ larger sample sizes. Effects that would be particularly interesting to pursue further would pertain to the prediction of partial RTW.

Another limitation concerns the measurement of our mental health variables. Substantial dropout occurred, although this was not selective for most of the variables studied and we used multilevel analyses in order to deal with missing data [41]. Moreover, we did not have the opportunity to measure psychological well-being in the longer-term and at crucial RTW events (e.g., during increases in work hours). Future research could also pay attention to the long-term quality of RTW (e.g., and the views of different stakeholders on successful RTW) (see also [9, 53]).

It is also important to take into account that low efficacy cognitions may reflect individuals' work environment and individual characteristics that are beyond individuals' control [9, 24]. Although CMDs may affect individuals' ability to have realistic efficacy cognitions, trying to alter realistic low self-efficacy beliefs might actually harm individuals. For instance, when individuals are encouraged to adopt goals that would go far beyond their reach or control, failure may occur. This risk may be reduced by gradual return and by choosing adequate goals that target controllable factors. Nevertheless, practitioners and future researcher might want to assess the realism of clients' efficacy cognitions, for instance, by relating these cognitions to clients' (mal) functioning at work before the onset of mental health problems, by examining relevant work factors that are beyond clients' control, and by exploring the options for employers to improve individuals' work environment [9, 24]. Based on this assessment, additional professional training, adaptations in individuals' work environment by the employer, or permanent job changes may be recommended to create a better person-job fit.

Future studies may also want to examine how interventions can be further adapted to help low self-efficacious individuals RTW. Future research might incorporate a wider variety of self-efficacy enhancing methods, as described above, such as vicarious learning from peers by using a group setting.

Conclusion

Self-efficacy may not only help us understand and facilitate RTW behaviour, it also predicts who will benefit most from interventions that aim to enhance RTW among employees with CMDs. Individuals with high baseline self-efficacy were better able to benefit from W-CBT in terms of full RTW. For those with low self-efficacy, perhaps extra exercises or components are needed to promote full RTW. Nevertheless, considering the benefits of W-CBT for partial RTW, we recommend this intervention for employees with CMDs, irrespective of baseline self-efficacy, depression and anxiety. We hope that our results may encourage practitioners to employ W-CBT as a preferred treatment method for sick-listed employees with CMD, and may inspire both researchers and practitioners to create and adapt interventions in line with clients' individual needs.

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Compliance with Ethical Standards

Conflict of interest All authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the national research committee and with the 1964 Helsinki declaration and its later amendments.

Informed Consent Informed consent was obtained from all individual participants included in the study.

References

1. Nieuwenhuijsen K. Employees with common mental disorders: from diagnosis to return to work. Dissertation, University of Amsterdam, The Netherlands, 2014.
2. Seymour L, Grove B. Workplace interventions for people with common mental health problems: a systematic review. London: British Occupational Health Research Foundation; 2005.
3. OECD, Organization for Economic Co-operation and Development. Sick on the job? Myths and realities about mental health and work. Paris: OECD Publishing; 2012.
4. Steel Z, Marnane C, Iranpour C, Chey T, Jackson JW, Patel V, et al. The global prevalence of common mental disorders: a systematic review and meta-analysis 1980–2013. Int J Epidemiol. 2014;43(2):476–493. https://doi.org/10.1093/ije/dyu038.
5. Kessler RC, Akiskal HS, Ames M, Birnbaum H, Greenberg P, Hirschfeld R, et al. Prevalence and effects of mood disorders on work performance in a nationally representative sample of U.S. workers. Am J Psychiatry. 2006;163(9):1561–1568. https://doi.org/10.1176/ajp.2006.163.9.1561.
6. Arends I, Bruinvels DJ, Rebergen DS, Nieuwenhuijsen K, Madan I, Neumeyer-Gromen A, et al. Interventions to facilitate return to work in adults with adjustment disorders. Cochrane Database Syst Rev. 2012. https://doi.org/10.1002/14651858.CD006389.pub2.
7. Nieuwenhuijsen K, Bultmann U, Neumeyer-Gromen A, Verhoeven AC, Verbeek JH, Van der Feltz-Cornelis CM. Interventions to improve occupational health in depressed people. Cochrane Database Syst. Rev. 2008. https://doi.org/10.1002/14651858.cd006237.pub2.
8. Blonk RWB, Brenninkmeijer V, Lagerveld SE, Houtman ILD. Treatment of work-related psychological complaints: a randomised field experiment among self-employed. Work Stress. 2006;20(2):129–144. https://doi.org/10.1080/02678370600856615.
9. Lagerveld SE, Blonk RWB, Brenninkmeijer V, Wijngaards-DeMeij LDNV, Schaufeli WB. Work-focused treatment of Common Mental Disorders and return to work: a comparative outcome study. J Occup Health Psychol. 2012;17(2):220–234. https://doi.org/10.1037/a0027049.
10. Van Dijk MK. Applicability and effectiveness of the Dutch multidisciplinary guidelines for the treatment of anxiety disorders in everyday clinical practice. Dissertation, Free University Amsterdam, The Netherlands, 2014.
11. Oomens PCJ, Huijs JJM, Blonk RWB. Obstacles in the workplace: what impedes return to work among employees with mental health problems? Tijdschrift voor Bedrijfs-en Verzekeringsgeneeskunde. 2009;17(6):231–236.
12. Lammerts L, Schaafsma FG, Van Mechelen W, Anema JR. Execution of a participatory supportive return to work program within the Dutch social security sector: a qualitative evaluation of stakeholders' perceptions. BMC Public Health. 2016;16(1):323–334. https://doi.org/10.1186/s12889-016-2997-x.
13. Lagerveld SE, Blonk RWB, Brenninkmeijer V, Schaufeli WB. Return to work among employees with mental health problems: development and validation of a self-efficacy questionnaire. Work Stress. 2010;24(4):359–375. https://doi.org/10.1080/02678373.2010.532644.
14. Kavanagh DJ, Wilson PH. Prediction of outcome with group cognitive therapy for depression. Behav Res Ther. 1989;27(4):333–343. https://doi.org/10.1016/0005-7967(89)90003-X.
15. Blank L, Peters J, Pickvance S, Wilford J, Macdonald E. A systematic review of the factors which predict return to work for people suffering episodes of poor mental health. J Occup Rehabil. 2008;18(1):27–34. https://doi.org/10.1007/s10926-008-9121-8.
16. Rebergen DS. Effectiveness of guideline-based care of workers with mental health problems. Dissertation, Free University Amsterdam, The Netherlands, 2009.
17. Van der Klink JJL, Blonk RWB, Schene AH, Van Dijk FJ. Reducing long term sickness absence by an activating intervention in adjustment disorders: a cluster randomised controlled design. Occup Environ Med. 2003;60(6):429–437. https://doi.org/10.1136/oem.60.6.429.
18. Norcross JC, Wampold BE. What works for whom: tailoring psychotherapy to the person. J Clin Psychol. 2011;67(2):127–132. https://doi.org/10.1002/jclp.20764.
19. Fonagy P. Psychotherapy research: do we know what works for whom? Br J Psychiatry. 2010;197(2):83–85. https://doi.org/10.1192/bjp.bp.110.079657.
20. Nicassio PM, Meyerowitz BE, Kerns RD. The future of health psychology interventions. Health Psychol. 2004;23(2):132–137. https://doi.org/10.1037/0278-6133.23.2.132.
21. Bandura A. Self-efficacy: toward a unifying theory of behavioral change. Psychol Rev. 1977;84(2):191–215. https://doi.org/10.1037//0033-295x.84.2.191.
22. Bandura A. The explanatory and predictive scope of self-efficacy theory. J Soc Clin Psychol. 1986;4(3):359–373. https://doi.org/10.1521/jscp.1986.4.3.359.
23. Corrigan PW, Watson AC, Barr L. The self-stigma of mental illness: implications for self-esteem and self-efficacy. J Soc Clin Psychol. 2006;25(8):875–884. https://doi.org/10.1521/jscp.2006.25.8.875.
24. Nieuwenhuijsen K, Noordik E, Van Dijk FJ, Van der Klink JJ. Return to work perceptions and actual return to work in workers with common mental disorders. J Occup Rehabil. 2013;23(2):290–299. https://doi.org/10.1007/s10926-012-9389-6.
25. Gallagher MW, Payne LA, White KS, Shear KM, Woods SW, Gorman JM, et al. Mechanisms of change in cognitive behavioral therapy for panic disorder: the unique effects of self-efficacy and anxiety sensitivity. Behav Res Ther. 2013;51(11):767–777. https://doi.org/10.1016/j.brat.2013.09.001.
26. Buckelew SP, Huyser B, Hewett JE, Johnson JC, Conway R, Parker JC, et al. Self-efficacy predicting outcome among fibromyalgia subjects. Arthritis Rheum. 1996;9(2):97–104.
27. Eden D, Aviram A. Self-efficacy training to speed reemployment: helping people to help themselves. J Appl Psychol. 1993;78(3):352–360. https://doi.org/10.1037/0021-9010.78.3.352.
28. Whisman MA. Mediators and moderators of change in cognitive therapy of depression. Psychol Bull. 1991;114(2):248–265. https://doi.org/10.1037//0033-2909.114.2.248.
29. Keeley ML, Storch EA, Merlo LJ, Geffken GR. Clinical predictors of response to cognitive-behavioral therapy for obsessive–compulsive disorder. Clin Psychol Rev. 2008;28(1):118–130. https://doi.org/10.1016/j.cpr.2007.04.003.
30. Rude SS, Rehm LP. Response to treatment for depression: the role of initial status on targeted cognitive and behavioral skills. Clin Psychol Rev. 1991;11(5):493–514. https://doi.org/10.1016/0272-7358(91)90001-B.
31. Andersen MF, Nielsen KM, Brinkmann S. Meta-synthesis of qualitative research on return to work among employees with common mental disorders. Scand J Work Environ Health. 2012;38(2):93–104. https://doi.org/10.5271/sjweh.3257.
32. APA. Diagnostic and statistical manual of mental disorders (DSM-IV). 4th ed. Washington, DC: American Psychiatric Association; 1994.
33. Keijsers GPJ, Schaap CPDR., Vossen CJC, Boelaars V, Van Minnen A, Hoogduin CAL. Burnout reintegration training, therapist book. Amsterdam: Boom Cure & Care Publishers; 2000.

34. Van Schie J, Blonk RWB, Lagerveld SE. Werkhervatting bij arbeidsgerelateerde psychische klachten, behandelingsprotocol [Return to Work and work-related psychological complaints, treatment protocol]. Hoofddorp, The Netherlands: TNO; 2005.
35. Arrindell WA, Ettema JHM. Manual to a multidimensional psychopathology-indicator. Lisse: Swets Test Publishers; 2003.
36. Derogatis LR. SCL-90: administration, scoring and procedures manual-I for the revised version. Baltimore: Johns Hopkins University school of Medicine, Clinical Psychometrics Research Unit; 1977.
37. Lovibond SH, Lovibond PF. Manual for the depression anxiety stress scales. Sydney: The Psychology Foundation of Australia; 1995.
38. De Beurs E, Van Dyck R, Marquenie LA, Lange A, Blonk RWB. The DASS: a questionnaire for the measurement of depression, anxiety, and stress. Gedragstherapie. 2001;34(1):35–53.
39. Aiken LS, West SG. Multiple regression: testing and interpreting interactions. Newbury Park: Sage; 1991.
40. Raudenbush SW, Bryk AS, Congdon R. HLM 6 for Windows [Computer software]. Skokie: Scientific Software International; 2004.
41. Hox J. Multilevel analysis: techniques and applications. 2nd ed. New York: Routledge Academic; 2010.
42. Reme SE, Grasdal AL, Løvvik C, Lie SA, Øverland S. Work-focused cognitive-behavioural therapy and individual job support to increase work participation in common mental disorders: a randomised controlled multicentre trial. Occup Environ Med. 2015;72(10):745–752. https://doi.org/10.1136/oemed-2014-102700.
43. Lammerts L. Return to work of workers without an employment contract, sick-listed due to a common mental disorder. Evaluation of a participatory supportive return to work program. Dissertation, Free University Amsterdam, The Netherlands, 2017.
44. Løvvik C, Shaw W, Øverland S, Reme SE. Expectations and illness perceptions as predictors of benefit recipiency among workers with common mental disorders: secondary analysis from a randomised controlled trial. BMJ Open. 2014. https://doi.org/10.1136/bmjopen-2013-004321.
45. Hees HL, De Vries G, Koeter MWJ, Schene AH. Adjuvant occupational therapy improves long-term depression recovery and return-to-work in good health in sick-listed employees with major depression: results of a randomised controlled trial. J Occup Environ Med. 2013;70(4):252–260. https://doi.org/10.1136/oemed-2012-100789.
46. Bandura A. Social cognitive theory of self-regulation. Organ Behav Hum Decis Process. 1991;50(2):248–287. https://doi.org/10.1016/0749-5978(91)90022-l.
47. Ashford S, Edmunds J, French DP. What is the best way to change self-efficacy to promote lifestyle and recreational physical activity? A systematic review with meta-analysis. Br J Health Psychol. 2010;15(2):265–288. https://doi.org/10.1348/135910709X461752.
48. Hellström L, Bech P, Hjorthøj C, Nordentoft M, Lindschou J, Eplov LF. Effect on return to work or education of Individual Placement and Support modified for people with mood and anxiety disorders: results of a randomised clinical trial. Occup Environ Med. 2017;74(10):717–725. https://doi.org/10.1136/oemed-2016-104248.
49. Salomonsson S, Santoft F, Lindsäter E, Ejeby K, Ljótsson B, Öst LG, et al. Cognitive-behavioural therapy and return-to-work intervention for patients on sick leave due to common mental disorders: a randomised controlled trial. Occup Environ Med. 2017;74(12):905–912. https://doi.org/10.1136/oemed-2017-104342.
50. Lammerts L, Schaafsma FG, Bonefaas-Groenewoud K, Van Mechelen W, Anema JR. Effectiveness of a return-to work program for workers without an employment contract, sick-listed due to common mental disorders. Scand J Work Environ Health. 2016;42(6):469–480. https://doi.org/10.5271/sjweh.3588.
51. Bejerholm U, Larsson ME, Johanson S. Supported employment adapted for people with affective disorders—a randomized controlled trial. J Affect Disord. 2017;207:212–220. https://doi.org/10.1016/j.jad.2016.08.028.
52. McClelland GH, Judd CM. Statistical difficulties of detecting interactions and moderator effects. Psychol Bull. 1993;114(2):376–390. https://doi.org/10.1037//0033-2909.114.2.376.
53. Hees HL, Nieuwenhuijsen K, Koeter MW, Bültmann U, Schene AH. Towards a new definition of return-to-work outcomes in common mental disorders from a multi-stakeholder perspective. PLoS ONE. 2012;7(6):e39947. https://doi.org/10.1371/journal.pone.0039947.